

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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PCT

WRITTEN OPINION
(PCT Rule 66)

Date of mailing
(day/month/year) **-6 MAY 2004**

Applicant's or agent's file reference
IPO14Multivu

REPLY DUE within **TWO MONTHS**
from the above date of mailing

International Application No.
PCT/NZ2003/000215

International Filing Date (day/month/year)
19 September 2003

Priority Date (day/month/year)
20 September 2002

International Patent Classification (IPC) or both national classification and IPC
Int. Cl. ⁷ G02B 27/02, G02F 1/1335, 1/1347, G09F 19/14

Applicant

DEEP VIDEO IMAGING LIMITED et al

1. This written opinion is the **first** drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:

I	<input checked="" type="checkbox"/>	Basis of the opinion
II	<input type="checkbox"/>	Priority
III	<input checked="" type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/>	Lack of unity of invention
V	<input checked="" type="checkbox"/>	Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input checked="" type="checkbox"/>	Certain documents cited
VII	<input type="checkbox"/>	Certain defects in the international application
VIII	<input checked="" type="checkbox"/>	Certain observations on the international application
3. The **FINAL DATE** by which the international preliminary examination report must be established according to Rule 69.2 is:
20 January 2005
4. The applicant is hereby **invited to reply** to this opinion.

When? See the **Reply Due** date indicated above. However, the Australian Patent Office will not establish the Report before the earlier of (i) a response being filed, or (ii) one month before the **Final Date** by which the international preliminary examination report must be established. The Report will take into account any response (including amendments) filed before the Report is established. **If no response is filed by 1 month before the Final Date, the international preliminary examination report will be established on the basis of this opinion.**

Applicants wishing to have the benefit of a further opinion (if needed) before the report is established should ensure that a response is filed at least 3 months before the **Final Date** by which the international preliminary examination report must be established.

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6.

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I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
pages , as amended under Article 19,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims No: 23 .

because:

☐ the said international application, or the said claim Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims No. 23 are so unclear that no meaningful opinion could be formed (*specify*):

The features of claim 23, and hence its scope, cannot be determined from reading the specification as a whole.

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim No. 23

2. A written opinion cannot be drawn due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

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V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	YES
	Claims 1-22, 24-25	NO
Inventive step (IS)	Claims	YES
	Claims 1-22, 24-25	NO
Industrial applicability (IA)	Claims 1-22, 24-25	YES
	Claims	NO

Citations and explanations

Citations

D1 : DE 19920789

D2 : JP 2002-099223

D3 : JP 11-205822

D4 : GB 2372618

D5 : WO 2000/048167

D6 : WO 2001/095019

D7 : US 5112121

D8 : DE 2730785

D9 : WO 2000/036578

NOVELTY (N) AND INVENTIVE STEP (IS) claims 1-22, 24-25

Each of D1 and D2 teaches a single-screen display (such as an LCD display) that presents different interlaced images to different viewing angles via a lenticular array film, and in particular teaches all features of independent claims 1, 18-19, 21-22 and 24-25. Each of D1 and D2 further teaches the additional features of dependent claims 2-6, and D1 further teaches the additional features of dependent claim 17.

D3 teaches a single-screen LCD display that presents different images to different viewing angles via a parallax barrier, and in particular teaches all features of independent claims 1, 18-19, 21-22 and 24-25. D3 further teaches the additional features of dependent claims 2-5.

D4 teaches a single-screen static display that presents different interlaced images to different viewing angles via an optical mask sheet, and in particular teaches all features of independent claims 1, 18, 22 and 25. D4 further teaches the additional features of dependent claims 4-6.

D5 teaches using a reflective single-screen display layer to display a clock face and a photograph at different viewing angles, and in particular teaches all features of independent claim 18.

D6 teaches a two-screen display where different images, displayed on an overlapping LCD screen and holographic or prism sheet screen respectively, are presented to different viewing angles via a polarising film, and in particular teaches all features of independent claims 7-8, 10-11, 16 and 18-19. D6 further teaches the additional features of claims 12-14.

Continued

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VL		Certain documents	
1. Certain published documents (Rule 70.10)			
Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2002-350772	4 December 2002	30 May 2001	30 May 2001
) This citation teaches all features of claims 1-5, 18-19, 22 and 24-25 (see, eg, abstract), and hence these claims are considered to lack novelty in light of this citation.			
2. Non-written disclosures (Rule 70.9)			
Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)	

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VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The claims and specification are unclear with respect to the term "viewing angle", and in particular whether this term is intended to refer to (i) the angle associated with a specific direction (associated with maximum contrast), or (ii) the angle associated with the width of a range of directions (which may be wide or narrow). The specification is completely ambiguous in this respect. For example, at page 2 line 27 and page 3 lines 17-19 the first interpretation is supported, while at page 2 lines 9-11 and page 3 lines 23-24 the second interpretation is supported. Further, the "definition" at page 5 lines 21-24 is particularly unclear in that it supports both interpretations (and also does not make grammatical sense). Perhaps "range of viewing angles" would be clearer.
2. The reference to prior art at lines 2-4 of page 5 is incomplete (no year or location).
3. Claim 1 does not clearly define any invention because it cannot be distinguished from any prior art stereoscopic device using a lenticular array or parallax barrier (it is common general knowledge in the art of such devices to separate out interlaced displayed images to left-eye and right-eye viewing directions respectively).
4. Claim 3 is not clear because its scope cannot be distinguished from claim 2. Claim 2 lines 4-7 require interlaced images to be separated out into constituent images. However, page 5 lines 1-3 defines "un-braiding" to be precisely such separating out. Hence the features of claim 3 are implicit in claim 2.
5. Claims 4, 5 and 6 are not clear with respect to the distinctions intended between privacy film, optical film, and lenticular lens (where the latter typically form a sheet and hence form an optical film). In the context of the claims there is no distinction between the first two, and the third is (typically) an example of the first two.
6. Claim 17 is not clear with respect to "An in-car". Perhaps "An in-car display" is intended.
7. Claim 18 is not clear with respect to "displaying each images ... viewing (*angle?*)... to the display layer".
8. Claim 21 is not clear because (a) the claim includes software for two-screen displays in which only *one* screen is used, making the feature of a second screen redundant, and (b) the use of "in any" in step (iv) of the claim appears to make this feature purely optional, and hence this step places no restriction on the scope of the claim. The claim should clearly identify what features contribute to the working of the invention as defined. For the purposes of this report, it is considered that software suitable for a single-screen display as per step (iii) of the claim is automatically suitable for a two-screen display, simply by not using the second screen.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V

D7 teaches a two-screen display where different images, displayed on overlapping holographic screens, are displayed to different viewing angles, via control of projector angles/colours, and in particular teach all features of independent claims 7, 11 and 18.

D8 teaches a two-screen static display where different (interlaced) images, displayed on overlapping screens, are displayed to different viewing angles via a lenticular lens sheet, and in particular teaches all features of independent claims 7, 9, 11, 18, 20, 22, 24 and 25. D8 further teaches the additional features of dependent claims 12 and 14-15.

D9 teaches two a two-screen LCD display where different images, displayed on overlapping screens (page 9 lines 2-3 of D9) are displayed to different viewing angles by appropriate software, and in particular teaches all features of independent claims 18 and 19.

It is that claim 1 is in fact not novel in the light of any prior art stereoscopic device using a lenticular array or parallax barrier (it is common general knowledge in the art of such devices to separate out interlaced displayed images to left-eye and right-eye viewing directions respectively).

With regard to the document(s) listed in Box VI under "certain documents cited", these are documents published prior to the international filing date but later than the priority date claimed but which would otherwise be considered to be of particular relevance.

Under the PCT, novelty is considered only in respect of documents published before the priority date. The relevance of a document published after the priority date is dependent upon national law. Such documents are excluded from consideration in preliminary examination, under the PCT Guidelines but have been included here for information.

INDUSTRIAL APPLICABILITY (IA)

The subject matter of the claims is applicable to multi-view display systems.